

On the Polyzoa and Hydroida of the Mergui Archipelago collected for the Trustees of the Indian Museum, Calcutta, by Dr. J. ANDERSON, F.R.S., Superintendent of the Museum. By the Rev. THOMAS HINCKS, B.A., F.R.S. (Communicated by Dr. JOHN ANDERSON, F.R.S., F.L.S.)

[Read 20th January, 1887.]

(PLATE XII.)

DR. ANDERSON has placed in my hands for examination the Hydroida and Polyzoa which were obtained in the course of his investigations in the Mergui Archipelago. I have already (*Annals and Mag. Nat. Hist.* for May 1884) given some account of the Polyzoa, and described and figured several new forms. A list of these, with a diagnosis of each, is included in the present report.

A small quantity of material has since been forwarded to me, which has yielded one or two interesting species hitherto undescribed, and it also enables me to extend the range of some well-known forms. Seven additional species have been noticed, which, with the fourteen already recorded, make a total of 21 species of Polyzoa from the Burmese waters.

Six species of Hydroida have been recognized, of which two appear to be undescribed.

The new material is insignificant in amount, and its chief interest centres in a fine mass of *Nellia oculata*, Busk (fortunately preserved in spirit), which proves to be rich in minute forms both of Polyzoa and Hydroida. The following is a list of all the species observed which are not included in my former paper.

Class POLYZOA.

Suborder CHEILOSTOMATA.

Family CELLARIIDÆ.

NELLIA, Busk.

NELLIA OCULATA, Busk.

A very large specimen of this species occurs, composed of many clustering shoots, and attached to a seaweed by a dense matted mass of delicate interlacing fibres.

[Torres Strait; Victoria; Gulf of Florida; coast of Arracan; Trincomalee; off Bahia; off Heard Island.

Bathymetrical range. 10 to 550 fathoms ('Challenger' Report).]

Family BICELLARIIDÆ.

BUGULELLA, *Verrill*.

Zoarium erect, composed of single series of zoœcia, each of them rising from the upper portion of the dorsal surface of the one below it; branches given off from the sides of the cells.

Zoœcia elongate, clavate, much attenuated below; aperture occupying a large proportion of the front. *Avicularia* articulated and capitate.

BUGULELLA CLAVATA, n. sp. [Woodcut.]

Zoœcia large, elongate, subtruncate at the top, ovate above, tapering off below the aperture; aperture elongate-oval, occupying about two thirds of the length of the cell, destitute of spines, with a membranous covering; orifice semicircular, at the very top of the aperture; a rather small articulated *avicularium* on each side, at the summit of the zoœcium. *Oœcium* (?).

Hab. On *Nellia oculata*, Busk.

I am only able to give a very imperfect account of this species. Two or three small specimens occurred, and several camera-lucida sketches were taken from them. But before I had the opportunity of making a careful study of the characters, the specimens were unfortunately lost. As several sketches were made, all



Bugulella clavata, greatly enlarged.

agreeing substantially, there can be no doubt about the leading characters; and I hope the brief diagnosis given above, in conjunction

with the woodcut, may be sufficient for identification should the species occur again. The specimens were small and immature, and did not enable me to determine with certainty the habit of growth, but it seemed to be eminently simple.

In one or two cases a cell was present on each side of one of the zoœcia in a main shoot (see Woodcut), which was probably the commencement of a branch.

The zoœcium is clavate in figure, elongate-ovate above, and produced below the aperture into a peduncular extension.

It is impossible to determine the systematic position of this form with certainty in the absence of a fuller diagnosis, but it will rank amongst the *Bicellariidæ*, and probably in the genus *Bugulella* of Verrill.

Family STEGANOPORELLIDÆ.

THALAMOPORELLA, *Hincks**.

THALAMOPORELLA SMITTII, *Hincks*.

Syn. Steganoporella Smittii, *id. History Brit. Mar. Polyzoa*, p. 178, plate xxiv. figs. 5, 6.

Hab. On stone, forming a large spreading crust.

[Coast of Cornwall.]

The Mergui *Thalamoporella* is undoubtedly identical with the Cornish species. It also closely resembles *T. Rozieri*, Audouin, form *indica*, mihi; the two forms only differ in the structure of the avicularium. In *T. Smittii* the mandible is elongate and spatulate; the margin of the beak is elevated on each side in the centre, and bends inwards at this point over the cavity, constricting the aperture and reducing it to a narrow passage. In *T. Rozieri*, form *indica*, the avicularium is comparatively short, rather broad and of about equal width throughout, and rounded above. The essential structure of the *mandible* is the same in both forms. It is composed of two distinct portions—a central piece which is slender, somewhat incurved on each side a little above the base, subacuminate at the upper extremity, and composed of solid chitinous material; this central portion is surrounded by a membranaceous extension or edging, which fills up the space between it and the stony framework of the beak.

* I have proposed this genus for the section of Smitt's *Steganoporella* of which *Thalamoporella Rozieri*, Audouin, sp., may be taken as the type. "Critical Notes on the Polyzoa," *Ann. & Mag. Nat. Hist.* for February 1887.

In all the other elements of structure the two forms agree; and I am inclined to think that *T. Smittii* (notwithstanding the very distinctive character of the appendage) should rank amongst the varietal forms grouped about the *T. Rozieri* of Audouin*.

The calcareous bar across the cavity of the beak immediately below the mandible, which is a very usual element of avicularian structure, is wanting in *T. Smittii* (as in other cases), and the mandible is simply articulated to a denticular process on each side. The avicularium (which replaces a cell) is developed on a distinct area, extending for some distance below the mandibular portion of the structure.

Family MYRIOZOIDÆ (part.), *Smitt*.

SCHIZOPORELLA, *Hincks*.

SCHIZOPORELLA SPONGITES, *Smitt*, var. (Plate XII. figs. 7 & 8.)

Zoecia disposed in lines, moderately convex (sutures shallow), subquadrangular or ovate, destitute of raised boundary-lines; surface reticulate; orifice arched above, the lower margin occupied by a rather deep sinus, broad at the opening and tapering off to a rounded point, a small notch at each side, where the sinus commences; usually a slightly raised border encircling the orifice, which is carried across the front of the cell a little below the sinus; peristome unarmed: a small *avicularium*, with pointed mandible directed upwards, placed obliquely close to one side of the orifice, suberect (occasionally one on each side); commonly a similar *avicularium* towards the base of the cell, pointing downwards. Large spatulate *avicularia*, replacing a cell, distributed over the zoarium, frequent—the mandible much enlarged towards the upper extremity. *Oecia* ample, covering entirely the front of the cell above them, and encroaching on those at each side, prominent, rounded, rather broader than high, narrowing towards the front, with a very small orifice; surface reticulate.

Hab. Forming a spreading crust, white and silvery, on stone.

[Coast of Florida; Mazatlan.]

This form, I believe, is rightly referred to *Schizoporella spon-*

* "Contributions, &c.—II. Foreign *Membraniporina* (continued)," *Ann. & Mag. Nat. Hist.* 5th ser. vol. vi. p. 380, plate xvi. fig. 1 (1880). In this paper I have described the form *indica* as having a slender pointed mandible, but this description only applies to the more solid central portion of it.

gites, Smitt* and Manzoni, though in several points it differs from the description and figure which these authors have given us. The cells of the latter are more decidedly rectangular, and are separated by conspicuous raised lines. The œcium, though of large size and rounded above, as in the present form, is of great breadth and subtruncate in front (see Smitt's figure 161); whereas that of the Mergui variety narrows off towards the oral extremity, which presents a rounded contour. There is also a striking dissimilarity in the structure of the oral sinus, which in the Mergui variety is small and slit-like, slightly enlarged below, and occupies the centre of the lower margin, which is perfectly straight. The same difference, however, and perhaps in a more marked degree, is met with in the case of *Schizoporella unicornis*, and it can hardly be taken in itself to indicate a specific distinction. In the normal *S. spongites* the zoarium is composed of several layers of cells placed one upon the other, and in the upper stratum at least the zoœcia are very irregularly disposed; they are turned in all directions, and without definite plan. In the only specimen of the present form (a finely developed one) which I have examined, the zoarium consists of a single layer of cells, and the latter are arranged with much regularity in lines. These differences, however, may depend upon age. The large scattered avicularia differ somewhat in shape in the two forms, that of the Mergui variety being broadly spatulate.

Family SELENARIIDÆ, Busk.

CUPULARIA, Lamouroux.

CUPULARIA UMBELLATA, DeFrance†. (Smitt; Manzoni.)

A considerable number of specimens occur in Dr. Anderson's collection of a species of *Cupularia*, which I believe to be identical with the above. In its perfect condition the front of the cells is covered with a semiopaque membranous investment, which carries the orifice and opercular valve. In a specimen from which this

* 'Floridan Bryozoa,' part ii. p. 42, pl. viii. figs. 161-163. Smitt identifies his Floridan species with *Eschara spongites* of Pallas and Moll, but this identification must, I think, be accounted doubtful. Moll's figure seems to represent a form of *S. unicornis*, Johnston, which is at once distinguishable from *S. spongites* by the characters of the œcium and the presence of the large spatulate avicularia.

† This form clearly belongs to the *Steganoporellidan* series, and must be transferred to it.

outer wall (ectocyst) has been removed, the cells in the centre of the colony, and in a zone extending for a short distance round it, are furnished with an internal calcareous lamina, more or less complete and perforated—in some cases closing in the cavity of the cell entirely, and with a line of punctures round the margin. The cells in the outer zone of the colony (towards the margin), occupying about two thirds of the disk, show no trace of a lamina. The inner margin of the cells is minutely but strongly granulated, the dividing line between them thin and smooth, and the aperture irregular-oblong, occasionally oval. Both Smitt and Manzoni figure a calcareous lamina with a single line of rather large pores round the edge, and at the upper extremity a semi-circular opening (*opesia* of Jullien), distinct from the true orifice in the membranous outer wall. This condition I have not been able to observe, owing to the presence of the ectocyst in almost all the specimens. The cells in the centre of one of the colonies, to which I have just referred as possessing a lamina which completely fills in the cavity, and is altogether destitute of an opening (*opesia*), are no doubt abnormally developed. In every colony the centre is occupied by the primary zoecium, which is oval in shape, and is surrounded by a belt of seven or eight cells which are disposed radiately about it. These are partially developed, and are destitute of an oral valve, although furnished with the membranous front wall. Probably in this region of the zoarium the internal calcareous lamina also is abnormal. The *dorsal surface* presents a very different appearance, according to the degree in which calcification has taken place. In young states the centre is occupied by a fragment of stone or coral (?), the base on which the colony was originally planted. This disappears after a time and its place is occupied by a central depression or hollow. The large vibracular cells, which project round the margin of the colony, are traversed by a smooth, keel-like raised line, on each side of which small granules are ranged. The divisions between the zoecia show distinctly on the inferior surface of the disk, which is more or less covered with minute granules. In the youngest states these are very feebly developed. In older colonies the dorsal surface is covered with elongate, radiating areas, separated by grooved, bifurcating lines, on which the granules are disposed longitudinally. As calcification proceeds a large part of the surface becomes coarsely granulous, while at the same time

a smooth and thickened border forms round the marginal region, which is occupied by the vibracular cells. This crust gradually extends until it covers a large proportion of the disk, patches only of the strongly granulated surface appearing here and there.

Suborder CTENOSTOMATA.

Family BUSKIIDÆ, *Hincks*.

BUSKIA, *Alder*.

BUSKIA SETIGERA, n. sp. (Plate XII. figs. 9-13.)

Stem creeping, slender, jointed at intervals; short, opposite branches given off at the joints, usually bearing zoœcia, the main lines of the stem anastomosing (?). *Zoœcia* perfectly transparent and smooth, enlarged and rounded below, narrowing towards the upper extremity (somewhat flask-shaped), attached to the stem by a small basal process, the portion of the cell immediately above the lower extremity decumbent and adherent, the rest suberect; the ventral side occupied by a large aperture, closed in by a membranous wall, which extends from near the bottom to the top of the cell; orifice terminal; four slender setæ of considerable length, each springing from an expanded base, placed on the margin of the oral extremity of the cell*; one or two short tubular adherent fibres given off from the side of the basal portion of the zoœcium. *Polypide* small, and of very simple structure; the tentacular sheath with its pencil of setæ, when fully extended, of great length; the setæ, before expanding, loosely twisted subspirally.

Hab. On the stems of *Nellia oculata*, Busk, over which it creeps in profusion.

The occurrence of a second species of *Buskia* has a positive interest, as throwing further light on a peculiar type of structure. Hitherto the genus has been represented by *Buskia nitens*, Alder, a smaller form than the present, which is not uncommon on the English coasts and ranges from the Mediterranean to the extreme north (Davis Strait, Barents Sea, White Sea) and to the Queen Charlotte Islands in the North Pacific. *B. setigera* is compara-

* In one or two of the figures (*e. g.* Plate XII. figs. 9 & 10) the spines are represented as taking their origin at some distance below the top of the chitinous portion of the zoœcium; they are really situated on the margin.

tively large, and from the suberect habit of the cell, the ventral aperture, extending from the bottom (or nearly so) to the top, is more apparent and more readily studied (Plate XII. fig. 9). The solid or chitinous portion of the zoœcium forms a kind of carapace closed in below by a membranous wall. The polypide stretches along the upper portion of the cell immediately beneath the chitinous shell and issues at the top of the oral area. The structure, so far as it can be determined in spirit-specimens, is extremely simple; there seems to be no trace of a gizzard. In the setose portion of the tentacular sheath there is an interesting peculiarity. The setæ before expanding, instead of being packed together so as to form a straight pencil, are seen to be subspirally arranged, some tending to one side, some to the other, and bear some resemblance to loosely twisted strands in a cord. As the tentacular corona moves upward and presses upon the base of the operculum, the setæ disentangle themselves and expand into the usual funnel-shaped figure. The setæ with the reversible portion of the sheath from which they rise equal the cell in length. The four setose appendages placed round the upper portion of the cell-margin form a very conspicuous and striking feature. When the polypide is exerted, they are thrown back and stand out from the cell; when it withdraws they are brought together and project at the summit.

The tubular adherent processes given off from the lower part of the cell correspond to the spines round the base of the zoœcium in *B. nitens*. The cells are developed in large numbers on the creeping stem, and the growth is luxuriant.

Family CYLINDRÆCIIDÆ.

CYLINDRÆCIUM, *Hincks*.

CYLINDRÆCIUM GIGANTEUM, *Busk*.

I can detect no difference between the Mergui form and our British species.

Hab. On *Nellia oculata*, *Busk*.

[English coast; Adriatic; Bay of Naples; Queen Charlotte Islands, North Pacific.]

SPECIES OF POLYZOA FROM MERGUI ALREADY RECORDED*.

Family CELLULARIIDÆ.

SCRUPOCELLARIA, *Van Beneden*.SCRUPOCELLARIA DIADEMA, *Busk*. (Plate XII. fig. 6.)

The Mergui form agrees, on the whole, with figure 3 (plate xxviii.) in the B. M. Catalogue, and with the figure of *S. ciliata*, Audouin (= *S. diadema*, according to Busk), in the 'Challenger' Report (plate xi. fig. 5); but there are differences between them which are worth noting. In the Mergui specimens the lowest spine on each side, when mature, is bifid at the extremity, and I have little doubt that where the spines are perfect this will be found to be a constant feature. The characteristic form of the scutum is shown in fig. 3 of the B.M. Catalogue, and, so far as I have seen, there is little variability in shape, except such as is dependent on the degree of development. The regular rounded outline represented in the 'Challenger' figure is certainly not met with in Mergui examples. The scutum has a rather long, suberect pedicel; the shield is triangular, depressed in the centre, the sides very much elevated, running out into a strong dentate projection, the anterior margin also dentate. The anterior avicularia are commonly large and more or less elevated, with an elongated mandible pointing obliquely downwards; sometimes a smaller form occurs. I have seen no approach to the tall columnar form which is represented in figure 1 of the B. M. Catalogue. In the 'Challenger' Report Mr. Busk has referred *S. diadema* to Audouin's *Crisia ciliata*; but the identification is purely conjectural, and can only serve, as it seems to me, to perplex the student. To take a single point, the scutum of *Crisia ciliata* as delineated by Savigny, which is very definite and peculiar in character, is quite unlike that of *S. diadema*.

Family BICELLARIIDÆ.

BEANIA, *Johnston*.BEANIA MIRABILIS, *Johnston*.

* "Contributions towards a General History of the Marine Polyzoa.—XII. Polyzoa from India (Coast of Burmah)." Ann. & Mag. Nat. Hist. 5th ser. vol. xiii. pp. 356–362, pl. xiii. (1884).

Family MEMBRANIPORIDÆ.

MEMBRANIPORA, *De Blainville.*MEMBRANIPORA FAVUS, *Hincks* *.

“*Zoœcia* oval, or hexagonal, or suborbicular (presenting many irregularities both in form and arrangement), of considerable depth, closely packed together, surrounded by a narrow brown line, which forms a kind of keel on the top of the cell-wall; inner surface of the margin granular; aperture occupying the whole front of the cell, closed in by a delicate membrane; numerous small cells of various shapes (sometimes quadrate, with an orbicular aperture) interspersed amongst the larger ones. *Avicularia* none.

“*Zoarium* forming a rather thick crust, and (especially in the absence of the membranous front wall) closely resembling a honeycomb.”

MEMBRANIPORA MARGINELLA, *Hincks* †.

“*Zoœcia* rather small, quincuncially arranged, ovate or pyriform, sometimes pointed below, with a rather thick, unarmed, minutely granular margin; aperture occupying about two thirds of the front and closed in by membrane, contracted above and expanded and rounded below; a small oval *avicularium*, borne on the margin of the *zoœcia*, usually placed on the side, near the top. Occasionally cells with a very large oral operculum of a dark horn-colour, occupying nearly half the aperture, and inclosed by a thin raised border (? *avicularian* or reproductive).”

Family STEGANOPORELLIDÆ.

STEGANOPORELLA, *Smitt.*STEGANOPORELLA MAGNILABRIS, *Busk.*

Hab. Spreading over stone.

SMITTIPORA, *J. Jullien.*SMITTIPORA ABYSSICOLA, *Smitt.*

* *Ann. & Mag. Nat. Hist.* ser. 5, vol. xiii. p. 357, pl. xiii. fig. 2 (1884).

† *Ibid.* p. 358, pl. xiii. fig. 1 (1884).

Family MICROPORELLIDÆ.

MICROPORELLA, *Hincks*.MICROPORELLA VIOLACEA, *Johnston*, form PLAGIOPORA, *Busk*.[ESCHARA FUEGENSIS, *Busk*. Provisionally placed in this family.]Family MYRIOZOIDÆ (part.), *Smitt*.SCHIZOPORELLA, *Hincks*.SCHIZOPORELLA BIAPERTA, *Michelin*.Family ESCHARIDÆ (part.), *Smitt*.LEPRALIA, *Johnston* (part.).LEPRALIA ROBUSTA, *Hincks* *.

“*Zoëcia* very large, ovate, quincuncial, flattish, separated by a rather deep furrow, which is occupied by a line of large punctures; surface uneven, rather coarsely granulose, usually a small depression in the centre; orifice large, much taller than wide, arched and expanded above, somewhat contracted below, constricted a short distance above the inferior margin, which curves outwards; on each side of the orifice (or sometimes on one side only) a much elongated subspatulate *avicularium*, which originates some way below the orifice and slants obliquely upwards to a little above the top of it; mandible long, blunt and slightly expanded at the extremity, and directed upwards. *Oæcium* rounded, somewhat prominent, moderate in size, surface roughened.”

PORELLA, *Gray*.PORELLA MALLEOLUS, *Hincks* †.

“*Zoëcia* rectangular, disposed in linear series, depressed, separated by delicate raised lines; surface covered with small punctures and nodulous ridges; a line of larger foramina round the sides; orifice arched and expanded above, much contracted below, the margin about the centre projecting inward on each side,

* *Ann. & Mag. Nat. Hist.* ser. 5, vol. xiii. p. 360, pl. xiii. fig. 4 (1884).† *Ibid.* p. 361, pl. xiii. fig. 5 (1884).

lower lip slightly curved (nearly straight); within it an *aviculum* with a hammer-shaped mandible. Occasionally an *aviculum* at one side, which takes its origin some way down the cell and slopes upward to the top of the orifice; mandible elongate, slightly expanded at the base, slender above it, and pointed at the extremity, directed upwards. *Oœcium* (?).

"*Zoarium* incrusting, whitish, of very delicate material."

SMITTIA, *Hincks*.

SMITTIA TRISPINOSA, *Johnston*, vars.*

Family CELLEPORIDÆ.

CELLEPORA, *Fabricius* (part.).

CELLEPORA, ? n. sp.

Identical with *C. brunnea* (provisional name) of my "Report on the Polyzoa of Queen Charlotte Islands"†.

Suborder CYCLOSTOMATA.

Family LICHENOPORIDÆ.

LICHENOPORA, *DeFrance*.

LICHENOPORA NOVÆ-ZEALANDIÆ, *Busk*.

HYDROIDA.

The following species of Hydroida occur amongst Dr. Anderson's dredgings:—

Suborder THECAPHORA, *Hincks*.

Family CAMPANULARIIDÆ.

OBELIA, *Péron & Lesueur*.

OBELIA ANDERSONI, n. sp. (Plate XII. figs. 2-4.)

Stem straightish, slightly angulated at the origin of the pedicels

* Ann. & Mag. Nat. Hist. ser. 5, vol. xiii. p. 361, pl. xiii. figs. 6 & 7 (1884).

† 'Geological and Natural History Survey of Canada,' Ottawa, 1884.
[Reprinted from the Ann. & Mag. Nat. Hist. for 1883 and 1884.]

which support the calyces, and annulated above them. *Hydrothecæ* alternate, borne on short pedicels ringed throughout (about 7–8 rings), narrow, contracted at the base, from which point the wall slopes outward for a short distance, so that the lower extremity of the calyces is funnel-shaped, the upper three fourths subcylindrical (expanding very slightly towards the orifice); the rim cut into 10–16 narrow, rather tall, blunt denticles.

Gonothecæ springing from the main stem near the base of the pedicels, borne on short ringed stalks, narrow at the base, expanding upwards, truncate at the top. *Gonozooids* medusiform.

Hab. On *Nellia oculata*, Busk.

The peculiar form of the lower portion of the calyces is characteristic.

? *OBELIA BIFURCA*, n. sp. (Plate XII. fig. 1.)

Stem simple, straightish, annulated above the pedicels. *Hydrothecæ* alternate, of large size, tall, contracted below, expanding gradually towards the oral extremity, at which point they are about three times as wide as at the base, borne on short stalks, annulated throughout and not tapering; the rim cut into about a dozen (?) broad, bicuspid denticles. *Gonothecæ* (?).

Hab. On *Nellia oculata*.

In the absence of the reproductive zooids this species is referred provisionally to the genus *Obelia*.

In some respects it is allied to *O. bicuspidata*, Clarke, obtained off Thimble Islands, coast of New England; but the latter seems to be smaller and of much more delicate habit, the calyces are very slender and lineated longitudinally (8–10 distinct lines extending from the top almost to the base), the pedicels are comparatively long and are represented as tapering upwards, and the stem is compound.

CAMPANULARIA, *Lamarck* (part.).

CAMPANULARIA RARIDENTATA, *Alder*. (Plate XII. fig. 5.)

Hab. On *Nellia oculata*.

[Great Britain.]

So far as the calyces is concerned, the Mergui form is not distinguishable from Alder's species. The reproductive capsules were not observed.

Family PLUMULARIIDÆ.

AGLAOPHENIA, *Lamouroux*.Subgenus LYTOCARPIA, *Kirchenpauer*.AGLAOPHENIA CRISPATA, *Kirchenpauer*.

[Java; Formosa.]

Subgenus MACRORHYNCHA, *Kirchenpauer*.AGLAOPHENIA URENS, *Kirchenpauer*.*Hab.* Coral-bed.

[Java sea; Batang; Brisbane; ? Singapore, var.]

The following remark by Capt. Werner, who obtained this species in the Java sea, is given by Kirchenpauer*:—"Diese Pflanze fand ich beim Baden auf der Insel Onrust, in der Java See. Sie war an einen Stein angewachsen, und brannte beim Berühren wie Brennesseln, könnte also wohl ein *Urtica navalis* sein."

Dr. Anderson also mentions its remarkable stinging properties. The specimen from Mergui is about a foot in length.

Family SERTULARIIDÆ.

IDIA, *Lamouroux*.IDIA PRISTIS, *Lamouroux*.

Several specimens occur amongst the dredgings. I have met with no notice of this interesting form but the original description of it by Lamouroux. It is clearly entitled to generic rank, though the diagnosis given by this author is quite inadequate. Prof. Allman informs me that the species occurs amongst the 'Challenger' dredgings, and will be described and figured in the forthcoming part of his monograph on the Hydroida. The gonothecæ are not noticed by Lamouroux; they occur in some abundance on the Mergui specimens. They are borne on the main stem, and are urn-shaped, rounded below, expanding very slightly upwards, and narrowing at the top into a short tubular, neck-like orifice. They are prettily ribbed longitudinally, and supported on a short peduncle.

[Australian seas.]

* 'Ueber die Hydroidenfamilie Plumularidæ, einzelne Gruppen derselben, und ihre Fruchtbehältnisse.' Hamburg, 1872.

DESCRIPTION OF PLATE XII.

- Fig. 1. ? *Obelia bifurca*, n. sp.
 2 & 3. *Obelia Andersoni*, n. sp. Calyces, magnified. 4. Gonotheca.
 5. *Campanularia varidentata*, Alder.
 6. *Scrupocellaria diadema*, Busk.
 7. *Schizoporella spongites*, Smitt, var. n. 8. Oœcium.
 9-12. *Buskia setigera*, n. sp. 13. The opercular setæ, showing the sub-spiral arrangement.

On a new Species of *Brachyonychus* from the Mergui Archipelago. By HENRY WALTER BATES, F.R.S., F.L.S.

[Read 2nd December, 1886.]

Family CARABIDÆ, subfam. PANAGÆINÆ.

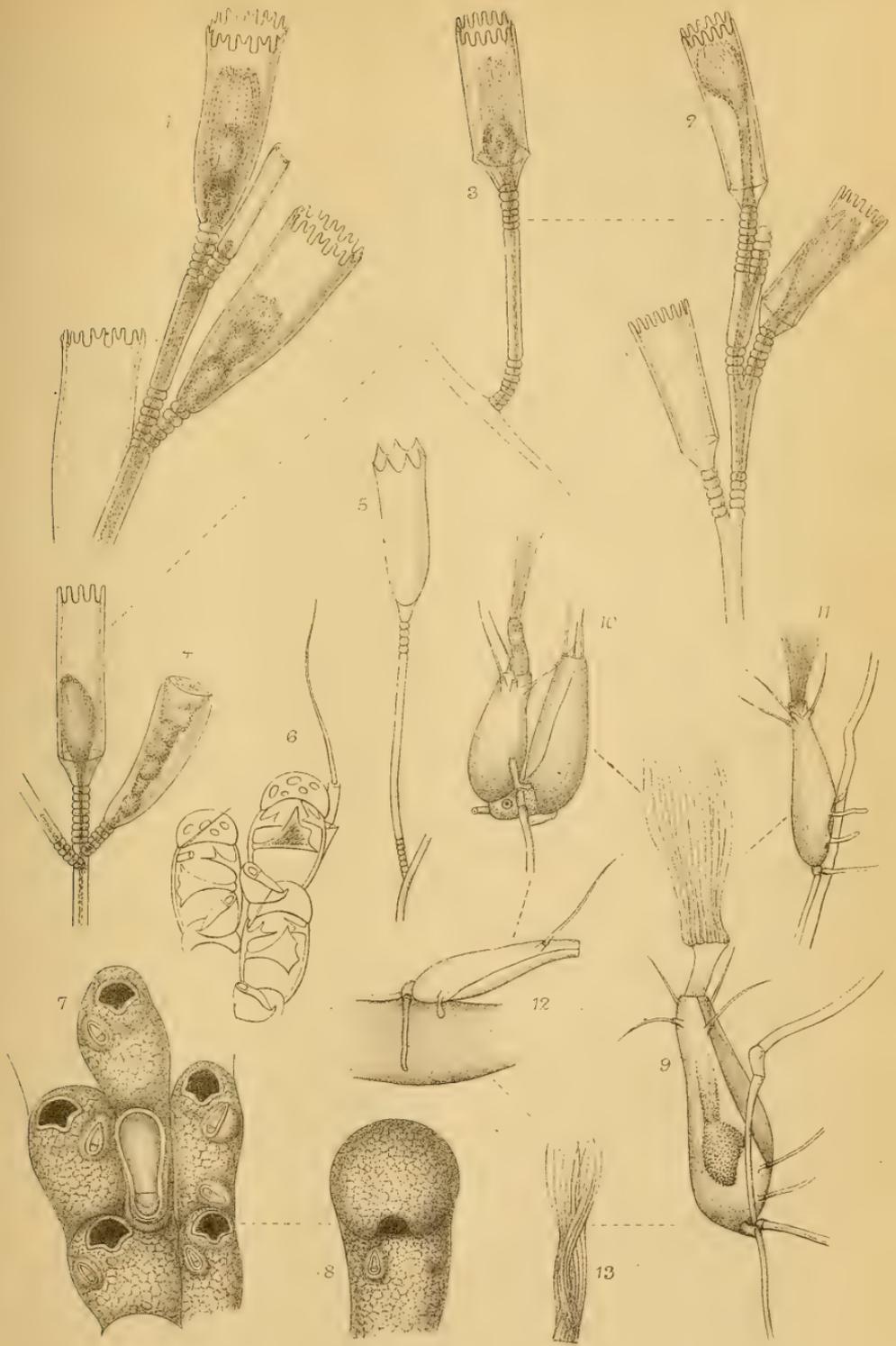
BRACHYONYCHUS ANDERSONI, n. sp.

Allied to the Siamese species, *B. lævipennis*, Chaudoir, from which it differs by its smaller size, its rather less rounded elytra, and the fine punctuation of the base, as well as of the ninth and external half of the eighth (lateral) interstices. Convex; thorax hexagonal, with the lateral angles rounded, sides explanate but not reflexed; elytra relatively short, ovate, more broadly ovate than in the well-known *Eudema angulatum*, F., striate-punctate, with nearly plane interstices (rather more convex on the sides), very finely alutaceous and impunctate, except at the base and sides. The epistome is faintly rugose, the forehead coarsely intricate-rugose, without trace of punctures; the thorax closely confluent-punctulate, more distantly punctured on the broadly flattened margins. The elytra have each two transverse red spots or fasciæ; the anterior extending from the third stria to the lateral margin, and composed of elongate spots which are shorter on the fifth and seventh interstices; the posterior, much more dentate, extending from the third to the eighth stria, and composed of spots which project alternately in front and behind. The prosternum, metathoracic episterna, and sides of the basal ventral segments are sparsely and rather coarsely punctured.

Length 25 millim.

The species is intermediate between *Brachyonychus lævipennis* and *B. sublævis* Chaudoir, both known only from Siam and Cochin China. The genus contains only one other described species, *B. humeratus*, which is also from Cochin China.

Loc. Elphinstone Island.



Rev. T. Hincks del.